Food Science

Career Cluster	Agriculture, Food and Natural Resources
Course Code	18305
Prerequisite(s)	Recommended: Introduction to AFNR
Credit	0.5 of 1.0
Graduation Requirement	No
Program of Study and Sequence	Cluster Course – **Food Science** – Ag Processing Technology (Food and Fiber)
Student Organization	National FFA Organization
Coordinating Work-Based Learning	Job shadowing, mentoring, internships, entrepreneurships, service learning, workplace tours, apprenticeship, school-based enterprises, Supervised Agricultural Experience (SAE)
Industry Certifications	OSHA 10 Hour Safety Certification (General Industry), National Career Readiness Certificate (NCRC)
Dual Credit or Dual Enrollment	
Teacher Certification	Agriculture Education
Resources	

Course Description:

The state of South Dakota is diverse in the agriculture products it produces and the value added food products available to the consumer. Food Science is a course designed to provide students with an overview of food science and its importance to producers and consumers. Classroom and laboratory content may be enhanced by utilizing appropriate equipment and technology. Mathematics, science, English and human relations skills will be reinforced in the course. Work-based learning strategies appropriate for this course are school-based enterprises, field trips and internships. Opportunities for application of clinical and leadership skills are provided by participation in FFA through activities, conferences and skills competitions such as the Food Science Career Development Event (CDE), Meat Evaluation CDE and Milk Quality and Products CDE. Each student will be expected to maintain a Supervised Agricultural Experience (SAE).

Program of Study Application:

Food Science is a first pathway course in the Agriculture, Food and Natural Resources cluster, Food Product and Processing Systems pathway. Food Science would follow a cluster course and would prepare a student to participate in Ag Processing Technology (Food and Fiber).

Course Standards

FS 1 Examine the makeup of the food industry.

Webb Level	*Sub-indicator*	*Integrated Content*
Three Strategic Thinking	FS 1.1 Investigate advancements in food science techniques.	
Two Skill/Concept	FS 1.2 Identify organizations and their impact on the food industry.	

Notes

FS 2 Apply safety and sanitation procedures for food production.

Webb Level	*Sub-indicator*	*Integrated Content*
One Recall	FS 2.1 Describe proper safety and sanitation practices when working with food products.	
Two Skill/Concept	FS 2.2 Apply safety and sanitation practices used in the food industry.	
One Recall	FS 2.3 Identify origins of food borne pathogens and effective prevention and control methods.	

Notes

FS 3 Apply principles of science to producing safe, wholesome and nutritious food products.

Webb Level	*Sub-indicator*	*Integrated Content*
Two Skill/Concept	FS 3.1 Apply fundamental chemistry to food science.	
Two Skill/Concept	FS 3.2 Differentiate the makeup of food products.	
Three Strategic Thinking	FS .3.3 Develop a food product that meets the standards of regulatory agencies.	

Notes

FS 4 Develop employability skills related to the Food Product and Processing Systems.

Webb Level	*Sub-indicator*	*Integrated Content*
Two Skill/Concept	FS 3.4 Develop soft skills to enhance employability.	

Notes